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Publication Brief for Resource Managers

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A comprehensive look at water-clover ferns in the southeastern United States

The scientific inquiry of invasive species can carry double weight when our knowledge of native relatives is simultaneously improved. Such was the case in the investigations of Colette Jacono, USGS and David Johnson, Ohio Wesleyan University, on the influx of water clover ferns, *Marsilea*, to the southeastern United States.

As published in the March issue of the journal *Castanea*, the authors provide evidence of changes in the water-clover introductions and status. Recent influx and spread of two Australian (*M. mutica* and *M. hirsuta*) and a Southeast Asian species (*M. minuta*) prompted Jacono's rediscovery of the presumed extinct Tropical water-clover (*M. ancylopoda*) and reevaluation of the regional distribution of the genus. Their findings conclude that native North American populations of *Marsilea* do not occur east of the Mississippi River floodplain and that Tropical water-clover is in fact the North American species, *M. oligospora*, introduced from the West. This western introduction is becoming the dominant component of lakeside restoration wetlands located in the St. Johns River drainage of central Florida.

Jacono and Johnson also provide an illustrated key to the water-clover ferns in the southeast, and clarify the status of two additional western North American species, Hairy water-clover (*M. vestita)* and Bigfoot water-clover (*M. macropoda*). They document exotic Asian and Australian species of water-clover as occurring in weedy, competitive stands in both aquatic and terrestrial habitats including ponds, quiet streams and seasonally flooded wetlands in eight southern states. These species adjust easily to environmental change, endure periods of water recession and low temperatures, and are effective colonizers and growers. Popular water garden plants, the Asian and Australian species are spreading as escapes from horticultural cultivation.

Management Implications:

- This study presents evidence for the removal of a presumed rare/extinct species from the Flora of North America and subsequent recognition of the plant as an invasive introduction.
- Technical tools are provided for species identification and distinction in a scientific journal commonly consulted by field botanists in the eastern U.S. region.
- New species are documented as invasive in wetland restoration projects in the southeastern U.S.

Jacono, C.C., and D.M. Johnson. 2006. Water-clover ferns, Marsilea, in the Southeastern United States. Castanea 71 (7) :1-14.